Remarks

The Applicant respectfully requests entry of the above Amendments, and consideration of the application as amended.

By these amendments, the Applicant has amended claims 9, 22, 31, and 78 to better define these aspects of the present invention. No new matter was introduced and no amendments were made to overcome prior art.

The Applicant submits that claims 9, 11-13, 22, 23, 25-40, 42-44, 48-51, 54 and 59-82 are now pending in this application. Claims 27-30, 32-40, 42-44, 50, and 51 were previously withdrawn.

The Applicant advises the Patent Office that a Sixth Supplementary Information Disclosure Statement and Citation are being filed with this Response. This Citation identifies related pending applications and references recently uncovered to comply with the Applicant's duty of candor.

Response to Office Action

1. General Comments

The Applicant acknowledges with appreciation the assistance of Examiner Matthew Desanto in forwarding this application toward allowance. The above amendments to the claims reflect conversations between Applicant's undersigned Agent and Examiner Desanto. Specifically, the above amendments reflect Examiner Desanto's suggestion to more explicitly define the interaction of the "bearing surfaces" or "camming surfaces" of the present invention in the claims.

In this regard, the Applicant submits that support for the wording introduced in the above amendments can be found in the as-filed Specification in the following locations:

"impinges and slidably engages":	Paragraph 0020, lines 3-8; Paragraph 0023. lines 5-9; Paragraph 0025, lines 3-7; and Paragraph 0026, lines 8-12.
"smooth and continuous taper having a maximum diameter"	Figures 10A and 10B and paragraph 0032, lines 6-9.
"camming surface"	Paragraph 0028, lines 6-7.

2. Response to Rejections Pursuant to 35 USC §102 based upon Cox

In paragraphs 2 and 3 on page 2 of the Office Action, the Patent Office rejected claims 9-13, 31, 48, 49, 54, 59-64, 75, 76, and 78-82 pursuant to 35 U.S.C. 102(b) as anticipated by U.S. Patent 5,290,294 of Cox, et al. [herein "Cox"]. However, the Applicant respectfully submits that this rejection is inappropriate and respectfully requests that the Patent Office reconsider this rejection in view of the following comments.

MPEP § 2131 defines the conditions under which an anticipation rejection is appropriate:

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim...

With respect to the rejection of claim 9, the Applicant submits that Cox does not set forth every element set forth in claim 9 and does not disclose the identical invention shown in as complete detail as recited in claim 9. Therefore, the Applicant submits that Cox does not anticipate the invention of claim 9. The Applicant believes that the Patent Office has misinterpreted Cox.

Again, claim 9 was amended to better define this aspect of the present invention. No new matter was introduced and no amendments were made to overcome prior art.

In view of the repeated rejections of claim 9 and its dependents, the Applicant believes that it would be beneficial to briefly review this aspect of the invention. The following discussion of the present invention was presented in Response filed on July 22, 2003 and is repeated here, with emphasis, as required, to clearly illustrate this aspect of the invention and to clearly distinguish this invention from the prior art.

As most clearly recited in claim 9, this aspect of the present invention comprises a trocar having a cannula and obturator for use in surgery, for example, arthroscopy surgery. According to this aspect of the present invention, the cannula and obturator are adapted to cooperate through the interaction between respective "bearing" or "camming" surfaces when the obturator is rotated relative to the cannula. The interaction of the bearing surfaces on the obturator with the bearing surface on the cannula causes the obturator to axially deflect relative to the cannula by converting the rotational moment on the cannula into an axial separating force, whereby the obturator is, for example, dislodged from a body cavity and thus more readily removed from the patient and the cannula. It is the forceful interaction between the bearing or camming surfaces that causes the desired deflection of the obturator.

This aspect of the invention is particularly effective when used in conjunction with the aspect of the invention recited in claim 22. Claim 22 recites a cannula having a flexible, smooth, and continuous open end through which an obturator passes. The axial deflection of the

obturator caused by the aspect of the invention recited in claim 9 is sufficient to deflect the flexible open end of the cannula to allow an obturator to pass through the open end of the cannula and be removed. The smooth and continuous open end also minimizes entanglement of any tissue or sutures that can typically encumber use of conventional slotted cannulas.

As noted by the Patent Office, Cox discloses a medical instrument having a cannula-type structure (12) and an obturator type structure (18), however, contrary to the invention recited in claim 9, these structures do not included any type of surfaces that function as recited in amended claim 9. In paragraph 12 on page 6 of the Action, the Patent Office identified "grooves" 22 and "C-clips" 24 shown in Figures 3 and 4 as the respective bearing surfaces disclosed by Cox. The Applicant, again, respectfully submits that these features of Cox in no way provide the function of the claimed bearing surfaces recited in claim 9.

Contrary to the statement made by the Patent Office, the grooves 22 and clips 24 of Cox are not "impinge and slidably engage...to cause the obturator to axially move relative to the cannula" as claimed. As described clearly in lines 55-66 of column 5 of Cox, clips 24 and grooves 22 engage so that the cannula and obturator are "locked together". There is absolutely no disclosure, teaching, or suggestion in Cox that the grooves 22 and clips 24 interact to axially move the obturator. For this reason alone, the rejection of claim 9 as anticipated by Cox is inappropriate.

In paragraph 12 of the Action, the Patent Office suggests that the relative rotational movement of clips 24 within groove 22 of Cox provides the "deflection" of the respective surfaces according to the present invention. However, among other clear distinctions between Cox and the present invention, the movement of clips 24 within groove 22 does not and cannot "cause the obturator to **axially move** relative to the cannula". Again, clips 24 and groove 22 provide a locking mechanisms, not a camming mechanism as in the present invention.

The Applicant respectfully requests that the rejections of claim 9 and its dependent claims 11-13, and 59-64 be reconsidered and withdrawn.

With specific reference to the rejection of claims 48 and 49, the Applicant respectfully submits that Cox does not disclose this invention in any way, shape, or form. As illustrated most clearly in Figures 11A-11D of the application, in this aspect of the invention, as recited in claim 48, the first bearing surface that is associated with the cannula, is movable relative to the cannula. For example, the surface of lever 750 is movable relative to the cannula 718 to which lever 750 is mounted. As recited in claim 49, the second bearing surface that is associated with the obturator, is movable relative to the obturator. Nowhere in Cox is this invention disclosed or suggested. The Applicant requests that these rejections be reconsidered and withdrawn.

With respect to the rejection of claim 31 due to Cox, the same arguments above that apply to claim 9 also apply to the rejection of claim 31. However, in addition to the arguments related to the rejection of claim 9, the further limitations recited in claim 31 are clearly not disclosed, taught, or suggested by Cox. Specifically, nowhere in Cox is it disclosed, taught, or suggested that the axial deflection of the obturator in any way causes a surface of the cannula to radially deflect, as recited in claim 31. The Applicant respectfully requests that the rejection of claim 31 and its dependents 75 and 76 be withdrawn.

With respect to the rejection of claim 78 due to Cox, the same arguments above that apply to claim 9 also apply to the rejection of claim 78. However, in addition to the arguments related to the rejection of claim 9, the further limitations recited in claim 78 are clearly not disclosed, taught, or suggested by Cox. Specifically, nowhere in Cox is it disclosed, taught, or suggested that the "camming surfaces" which "impinge each other, slidably engage, and cause axial displacement of the obturator with respect to the cannula" as recited in claim 78 or any type of surface that can be considered a camming surface as claimed. The Applicant respectfully requests that the rejection of claim 78 and its dependents 79 through 82 be withdrawn.

3. Response to Rejections Pursuant to 35 USC §102 based upon Schwemberger

In paragraph 4 on pages 3 and 4 of the Office Action, the Patent Office rejected claims 9-13, 31, 48, 49, 54, 59-62, and 65, and 78-82 pursuant to 35 U.S.C. 102(b) as anticipated by U.S. Patent 5,997,510 of Schwemberger [herein "Schwemberger"]. However, the Applicant respectfully submits that this rejection is inappropriate and respectfully requests that the Patent Office reconsider this rejection in view of the following comments.

With respect to the rejection of claim 9, the Applicant submits that Schwemberger does not set forth every element set forth in claim 9 and does not disclose the identical invention shown in as complete detail as recited in claim 9. Therefore, Schwemberger does not anticipate the invention of claim 9. The Applicant believes that the Patent Office has misinterpreted Schwemberger.

As noted by the Patent Office in previous Office Actions (but not in the subject Office Action), Schwemberger does disclose a medical instrument having a cannula-type structure (82) and an obturator-type structure (45); however, contrary to the invention recited in claim 9, these structures do not include any type of "bearing surfaces" that function as recited in amended claim 9. Again, since the Action does not explicitly identify which structures in Schwemberger provide the function of "bearing surfaces", the Applicant references earlier discussions with Examiner Desanto in which Examiner Desanto identified pins 33 and pin slots 94 shown in Figure 5 as the bearing surfaces of Schwemberger. The Applicant respectfully submits that these features of Schwemberger in no way provide the function of the claimed bearing surfaces recited in claim 9.

As disclosed in lines 44-53 of column 6 of Schwemberger, the pins 33 and slots 94 comprise a locking mechanism in which "the obturator assembly 30 can be locked to the cannula assembly 80 by rotating the retaining pins 33 into the pin slots 94" [Emphasis added.]. Clearly, even if these structures can be considered "bearing surfaces" (which they are not in the context of

the present invention), these structures do not "impinge and slidably engage...to cause the obturator to axially move relative to the cannula", as recited in claim 9. First, there is no adaptation of these structures of Schwemberger to axially move their obturator when the obturator is rotated. The surfaces of slots 94 are essentially horizontal and any movement of pins 33 in slots 94 will not induce axial movement of the obturator. Only when the obturator 30 is manually removed from cannula 80 does the obturator move axially relative to the cannula, and this axial movement has nothing whatsoever to do with the surfaces of pins 33 and slots 94. In addition, the locking of the pins 33 with slots 94 inherently prevents the obturator 30 of Schwemberger from moving in any direction, axially or otherwise.

In paragraph 12 on page 6 of the Action, the Patent Office suggests that "the obturator is going to move in an axially and/or radially direction when the 'bearing surfaces' are deflected by the rotation of the obturator". However, the Applicant submits that the obturator deflects only due to manual removal of the obturator by a user. The pin 33 on the obturator of Schwemberger does not "impinge and slidably engage" the slot 94 of the cannula "to cause the obturator to **axially move** relative to the cannula" as recited in claim 9. Again, the pin and slot of Schwemberger comprise a locking mechanism, not a camming mechanism.

For these reasons, again, the Applicant submits that Schwemberger does not anticipate the invention recited in claim 9. The Applicant respectfully requests that the rejections of claim 9 and its dependent claims 11-13, 48, 49, 59-62 and 65 be reconsidered and withdrawn.

With respect to the rejection of claim 31 due to Schwemberger, the same arguments above that apply to claim 9 also apply to the rejection of claim 31. However, in addition to the arguments related to the rejection of claim 9, the further limitations recited in claim 31 are clearly not disclosed, taught, or suggested by Schwemberger. Specifically, nowhere in Schwemberger is it disclosed, taught, or suggested that the axial deflection of the obturator in any way causes a surface of the cannula to radially deflect, as recited in claim 31. The Applicant respectfully requests that the rejection of claim 31 and its dependent claim 54 be reconsidered and withdrawn.

With respect to the rejection of claim 78 due to Schwemberger, the same arguments above that apply to claim 9 also apply to the rejection of claim 78. However, in addition to the arguments related to the rejection of claim 9, the further limitations recited in claim 78 are clearly not disclosed, taught, or suggested by Schwemberger. Specifically, nowhere in Schwemberger is it disclosed, taught, or suggested that the "camming surfaces" which "impinge each other, slidably engage, and cause axial displacement of the obturator with respect to the cannula" as recited in claim 78, or any type of surface that can be considered a camming surface as claimed. The Applicant respectfully requests that the rejection of claim 78 and its dependents 79 through 82 be withdrawn.

4. Response to Rejections Pursuant to 35 USC §102 based upon Taylor

In paragraph 5 on page 4 of the Office Action, the Patent Office rejected claims 9-13 and 31 pursuant to 35 U.S.C. 102(b) as anticipated by U.S. Patent 4,405,307 of Taylor [herein "Taylor"]. However, the Applicant respectfully submits that this rejection is inappropriate and respectfully requests that the Patent Office reconsider this rejection in view of the following comments.

With respect to the rejection of claim 9, the Applicant submits that Taylor does not set forth every element set forth in claim 9 and does not disclose the identical invention shown in as complete detail as recited in claim 9. Therefore, the Applicant submits that Taylor does not anticipate the invention of claim 9. Again, the Applicant believes that the Patent Office has misinterpreted Taylor.

The Applicant is amazed that the Patent Office continues to cite Taylor in this prosecution. Even a casual review of Taylor by one skilled in the art of the present invention would reveal that **Taylor provides no teaching whatsoever related to the aspect of the invention** against which Taylor is cited. Contrary to the comments made by the Patent Office, Taylor does not disclose a trocar assembly having a cannula and an obturator. As recited in its

title, Taylor discloses a "Needle Assembly and Method for Fabricating the Same." For this reason alone, Taylor does not anticipate the present invention and this rejection should be withdrawn.

Again, since the Action does not explicitly identify which structures in Taylor provide the function of "bearing surfaces", the Applicant again references earlier discussions with Examiner Desanto in which Examiner Desanto identified "protrusion" 44 and "notch" 26 shown in Figures 1-3 as the "bearing surfaces" disclosed by Taylor. Again, the Applicant respectfully submits that these features of Taylor in no way provide the function of the claimed bearing surfaces recited in claim 9.

As described in lines 25-38 of column 5 of Taylor, the protrusion 44 is received by notch 26 to ensure "the rotational and longitudinal alignment" of beveled point 34 of the stylet 32 and the beveled point 14 of the cannula 12. (Note that in several locations in this passage protrusion 44 is mislabeled "42".) Clearly, protrusion 44 and notch 26 **do not move relative to each other**, they are meant to engage to prevent movement, or more specifically, to ensure "the rotational and longitudinal alignment" of the needle with the cannula. Thus, even if protrusion 44 and notch 26 could provide bearing surfaces (which they do not), such surfaces do not "impinge and slidably engage the at least one first bearing surface of the cannula to cause the obturator to axially move relative to the cannula", as recited in claim 9.

For these reasons, again, the Applicant submits that Taylor does not anticipate the invention recited in claim 9. The Applicant respectfully requests that the rejections of claim 9 and its dependent claims 11-13 be reconsidered and withdrawn.

With respect to the rejection of claim 31 due to Taylor, the same arguments above that apply to claim 9 also apply to the rejection of claim 31. However, in addition to the arguments related to the rejection of claim 9, the further limitations recited in claim 31 are clearly not disclosed, taught, or suggested by Taylor. Specifically, nowhere in Taylor is it disclosed, taught,

or suggested that the axial deflection of the obturator in any way causes a surface of the cannula to radially deflect, as recited in claim 31. The Applicant respectfully requests that the rejection of claim 31 be reconsidered and withdrawn.

5. Response to Rejections Pursuant to 35 USC §102 based upon Smith

In paragraph 6 on page 4 of the Office Action, the Patent Office rejected claims 22-26, and 66-73 pursuant to 35 U.S.C. 102(b) as anticipated by U.S. Patent 5,807,338 of Smith, et al. [herein "Smith"]. However, the Applicant respectfully submits that this rejection is inappropriate and respectfully requests that the Patent Office reconsider this rejection in view of the following comments.

Claim 22 has been amended above with the limitation that the first end of the obturator includes a "smooth and continuous taper having a maximum diameter". Though the Applicant believes that the obturator of Smith does not anticipate claim 22 as previously presented, this amendment to claim 22 is presented to clearly distinguish this aspect of the invention from Smith.

The Applicant believes that the amendment made to claim 22 clearly distinguishes the invention recited in claim 22. In response to the Patent Office's comments in paragraph 9 on page 6 of the Action, the Applicant respectfully disagrees. Though the blades shown in Figure 6 of Smith may extend outward, the outer edges of these blades do not comprise a diameter as previously claimed. The Applicant submits that the edges of the blade of Smith define three individual points, not a continuous diameter, as disclosed and understood according to the present application. The Applicant's amendment above clearly recites this limitation, and, the Applicant believes, clearly distinguishes this aspect of the invention from Smith.

In response to the Patent Office's comments concerning the flexibility of the cannula of Smith, the Applicant continues to submit that the end of the cannula of Smith is not flexible

according to this aspect of the present invention. However, the Applicant believes that the above amendment clearly distinguishes this aspect of the invention from Smith and this distinction from Smith no longer needs to be addressed.

For these reasons, the Applicant submits that Smith does not anticipate the invention recited in claim 22. The Applicant respectfully requests that the rejections of claim 22 and its dependent claims 23, 25, 26, and 66-73 be reconsidered and withdrawn.

Furthermore, certain aspects of the claims dependent upon claim 22 are not anticipated or suggested by the disclosure of Smith. With respect to claim 23, none of the cannulas of Smith comprises a first end that is uniformly tapered from a second inside diameter, larger than the first inside diameter, to the first inside diameter. With respect to claim 67, none of the cannulas of Smith includes a head assembly having at least one bearing surface. These inventions clearly further distinguish the present invention from Smith.

6. Response to Rejections Pursuant to 35 USC §102 based upon Shipp

In paragraph 7 on page 4 of the Office Action, the Patent Office rejected claims 22-26 pursuant to 35 U.S.C. 102(b) as anticipated by U.S. Patent 5,263,937 of Shipp [herein "Shipp"]. However, the Applicant respectfully submits that this rejection is inappropriate and respectfully requests that the Patent Office reconsider this rejection in view of the following comments.

Contrary to the comments made by the Patent Office, Shipp clearly does not have "an inside surface of the first end of the cannula [that is] flexible, smooth, and continuous" as recited in claim 22. As clearly described in the Abstract of Shipp and shown in Figures 1 and 7, the cannula of Shipp includes "a proximal end having a number of slits [42] cut in the axial direction, thereby creating finger-like segments at the distal end of the cannula". This is precisely the prior art over which this aspect of the present invention is an improvement. These slits of Shipp can provide obstructions that can tear tissue or interfere with sutures. This aspect

of the present invention overcomes this disadvantage by providing a cannula having a smooth and continuous open end that does not provide surfaces that can cause obstructions to, for example, sutures. The Applicant respectfully requests that this rejection of claim 22 based upon Shipp and the rejections of dependent claims 23-26 based upon Shipp be reconsidered and withdrawn.

7. Conclusions

The Applicant submits that, based upon the above observations and arguments,:

1) The inventions of claims 9, 31 and 78 and their dependents are not anticipated by Cox (See Section 2 above.);

2) The inventions of claims 9, 31 and 78 and their dependents are not anticipated by Schwemberger (See Section 3 above);

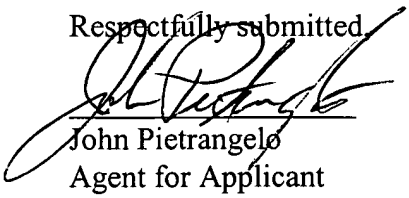
3) The inventions of claims 9 and 31 and their dependents are not anticipated by Taylor (See Section 4 above);

4) The inventions of claim 22 and its dependents are not anticipated by Smith (See Section 5 above); and

5) The inventions of claim 22 and its dependents are not anticipated by Shipp (See Section 6 above).

The Applicant believes that the application is in allowable form. Early passage of the application to issue is earnestly solicited. Should any matters remain outstanding, it is requested that the undersigned Agent be given a call so that such matters may be worked out and the application placed in condition for allowance without the necessity of another Action.

Respectfully submitted,



John Pietrangelo
Agent for Applicant
Registration No. 39,331

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HESLIN ROTHENBERG FARLEY & MESITI P.C.
5 Columbia Circle
Albany, New York 12203-5160
Telephone: (518) 452-5600
Facsimile: (518) 452-557